

TABLE 7			
50/50 Image Retention			
SS-4 Images			
Maximum Change 1 Day @ 21°C/50% RH to 7 Days @50°C5-%RH			
Description	C	M	Y
Pectin Batches (Prior Art))	0.61	0.57	0.60
Synthetic Viscosity Modifier Batches (Invention)	0.19	0.36	0.26

Having described the invention in detail and by reference to specific embodiments thereof, it will be apparent that numerous modifications and variations are possible without departing from the scope of the invention defined by the following claims.

5 What is claimed is:

INFORMATION

1. A process for forming photosensitive microcapsules having discrete capsule walls comprising the steps of forming an emulsion of an oily core material in a continuous aqueous phase containing a carboxyvinyl polymer and enwrapping particles of said oily core material in
5 an amine-formaldehyde condensation product produced by in situ condensation of an amine and formaldehyde wherein said carboxyvinyl polymer comprises a crosslinked polymer of acrylic acid.

2. The process of claim 1 wherein said carboxyvinyl polymer is present in said aqueous phase in an amount of about 1.0 to 8% by weight based on the amount of water in the aqueous phase.

3. The process of claim 2 wherein said carboxyvinyl polymer is present in said aqueous phase in an amount of about 2 to 4%.

4. The process of claim 1 wherein said formaldehyde condensation product is a melamine-formaldehyde resin.

5. The process of claim 1 wherein said carboxyvinyl polymer comprises a copolymer of acrylic acid and C₁₀ – C₃₀ alkyl acrylate crosslinked with a crosslinking monomer selected from the group consisting of polyalkenyl ethers and divinyl glycol.

6. The process of claim 5 wherein said crosslinking monomer is allylpentaerythritol.

7. The process of claim 1 wherein said aqueous phase further contains a sulfonated polystyrene.

8. The process of claim 1 wherein said microcapsules have an average particle size in a range from about 4 to 8 microns.

9. The process of claim 8 wherein at least 90% of said microcapsules have a particle size less than 10 microns.

10. The process of claim 9 wherein said microcapsules have an average particle size of about 5 microns.

11. The process of claim 1 wherein said core material is a photopolymerizable composition.

12. The process of claim 11 wherein said photopolymerizable composition contains an ethylenically unsaturated compound.

13. An imaging sheet comprising a first support carrying on one surface thereof an imaging layer comprising a developer and microcapsules having discrete capsule walls, said microcapsules containing a radiation-sensitive material in the internal phase and containing a carboxyvinyl polymer as a viscosity modifier in the aqueous phase, said microcapsules being formed by enwrapping particles of an oil-in-water emulsion in a formaldehyde condensation product produced by in situ polymerization of formaldehyde and an amine, wherein said carboxyvinyl polymer comprises a crosslinked polymer of acrylic acid.

14. The imaging sheet of claim 13 wherein said sheet further comprises a protective coating layer overlying said imaging layer.

15. The imaging sheet of claim 13 further comprising a second support wherein said imaging layer is positioned between said supports.

16. The imaging sheet of claim 13 wherein said formaldehyde condensation product is a melamine-formaldehyde resin.

17. The imaging sheet of claim 13 wherein said carboxyvinyl polymer is present in said aqueous phase in an amount of about 1.0 to 8% by weight based on the amount of water in the aqueous phase.

18. The imaging sheet of claim 13 wherein said carboxyvinyl polymer comprises a copolymer of acrylic acid and C₁₀ - C₃₀ alkyl acrylate crosslinked with a crosslinking monomer selected from the group consisting of polyalkenyl ethers and divinyl glycol.

19. The imaging sheet of claim 18 wherein said crosslinking monomer is allylpentaerythritol.

20. Photosensitive microcapsules exhibiting improved sensitometric response under a range of humidity conditions, said microcapsules having discrete capsule walls and comprising an internal phase encapsulated in a continuous aqueous phase wherein

said internal phase comprises a photohardenable composition and a color former;

5 and

said aqueous phase comprises a carboxyvinyl synthetic viscosity modifier comprising a crosslinked polymer of acrylic acid, wherein said photosensitive microcapsules provide substantially the same sensitometric response over a relative humidity range of from about 20% RH to 80% RH.

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